

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claims 1-22 (canceled).

Claim 23 (currently amended): The boundary acoustic wave device according to Claim 2931, wherein the plurality of boundary acoustic wave elements are boundary acoustic wave filters or boundary acoustic wave resonators.

Claim 24 (currently amended): The boundary acoustic wave device according to Claim 2931, wherein the plurality of boundary acoustic wave elements define resonators.

Claim 25 (currently amended): The boundary acoustic wave device according to Claim 2931, wherein the boundary acoustic wave device is a longitudinally coupled filter.

Claim 26 (currently amended): The boundary acoustic wave device according to Claim 2931, wherein the boundary acoustic wave elements are provided on a single piezoelectric single crystal substrate.

Claim 27 (currently amended): The boundary acoustic wave device according to Claim 2931, wherein an electromechanical coefficient of at least one of the boundary acoustic wave elements is different from that of at least one of the other boundary acoustic wave elements.

Claim 28 (currently amended): The boundary acoustic wave device according to Claim 2931, wherein a band width of at least one of the boundary acoustic wave elements is different from that of at least one of the other boundary acoustic wave elements.

Claim 29 (canceled).

Claim 30 (currently amended): The boundary acoustic wave device according to Claim 2931, wherein a duty ratio of the electrodes is set so that the acoustic velocity of an SH type boundary acoustic wave is lower than the acoustic velocity of a slow transverse wave propagating through the solid layer and the acoustic velocity of a slow transverse wave propagating through the piezoelectric single crystal substrate.

Claim 31 (currently amended): ~~The boundary acoustic wave device according to Claim 29, wherein~~ A boundary acoustic wave device using a non-leaky propagation type boundary acoustic wave, comprising:

a plurality of boundary acoustic wave elements, each boundary acoustic wave element including a single crystal substrate, a solid layer provided on the single crystal substrate, and electrodes arranged at a boundary between the single crystal substrate and the solid layer; wherein

the single crystal substrates have a same cut angle;

a propagation direction of a boundary acoustic wave of at least one of the boundary acoustic wave elements is different from that of at least one of the other boundary acoustic wave elements;

a thickness of the electrodes is set so that the acoustic velocity of an SH type boundary acoustic wave is lower than the acoustic velocity of a slow transverse wave propagating through the solid layer and the acoustic velocity of a slow transverse wave propagating through the piezoelectric single crystal substrate; and

$H > 8261.744\rho^{-1.376}$, when ρ (kg/m^3) represents the density of the electrodes, H (λ) represents the thickness of the electrodes, and λ represents the wavelength of a boundary wave.

Claim 32 (previously presented): The boundary acoustic wave device according to Claim 31, wherein $\rho > 3,745 \text{ kg/m}^3$.

Claim 33 (previously presented): The boundary acoustic wave device according to Claim 31, wherein $33,000.39050\rho^{-1.50232} < H < 88,818.90913\rho^{-1.54998}$.

Claim 34 (currently amended): ~~The boundary acoustic wave device according to Claim 29, wherein~~ A boundary acoustic wave device using a non-leaky propagation type boundary acoustic wave, comprising:

a plurality of boundary acoustic wave elements, each boundary acoustic wave element including a single crystal substrate, a solid layer provided on the single crystal substrate, and electrodes arranged at a boundary between the single crystal substrate and the solid layer; wherein

the single crystal substrates have a same cut angle;

a propagation direction of a boundary acoustic wave of at least one of the boundary acoustic wave elements is different from that of at least one of the other boundary acoustic wave elements;

a thickness of the electrodes is set so that the acoustic velocity of an SH type boundary acoustic wave is lower than the acoustic velocity of a slow transverse wave propagating through the solid layer and the acoustic velocity of a slow transverse wave propagating through the piezoelectric single crystal substrate; and

the piezoelectric single crystal substrate is a LiNbO_3 substrate, ϕ of Euler angles (ϕ, θ, ψ) of the LiNbO_3 substrate is in the range of -31° to 31° , and θ and ψ are in the

range surrounded by points A1 to A13 shown in the following Table 1:

Table 1

| Points | ψ {°} | θ {°} |
|--------|------------|--------------|
| A01 | 0 | 116 |
| A02 | 11 | 118 |
| A03 | 20 | 123 |
| A04 | 25 | 127 |
| A05 | 33 | 140 |
| A06 | 60 | 140 |
| A07 | 65 | 132 |
| A08 | 54 | 112 |
| A09 | 48 | 90 |
| A10 | 43 | 87 |
| A11 | 24 | 90 |
| A12 | 0 | 91 |
| A13 | 0 | 116 |

Claim 35 (currently amended): The boundary acoustic wave device according to Claim 2931, wherein the electrodes each include a main electrode layer made from a material selected from the group consisting of Au, Ag, Cu, Al, Fe, Ni, W, Ta, Pt, Mo, Cr, Ti, ZnO, and ITO.

Claim 36 (previously presented): The boundary acoustic wave device according to Claim 35, wherein the electrodes each further include an additional electrode layer laminated on the main electrode layer.

Claim 37 (previously presented): The boundary acoustic wave device according to Claim 36, wherein the solid layer includes a dielectric substance.

Claim 38 (previously presented): The boundary acoustic wave device according to Claim 37, wherein the dielectric substance includes a material primarily composed of

SiO₂.

Claim 39 (previously presented): The boundary acoustic wave device according to Claim 37, wherein the solid layer includes a plurality of laminates, each of the plurality of laminates including a plurality of material layers.

Claim 40 (previously presented): The boundary acoustic wave device according to Claim 39, wherein the solid layer includes a layer primarily composed of SiO₂ laminated to a layer primarily composed of Si.

Claim 41 (previously presented): The boundary acoustic wave device according to Claim 37, wherein the solid layer includes at least one material selected from the group consisting of Si, SiO₂, glass, silicon nitride, silicon carbide, ZnO, Ta₂O₅, titanate zirconate lead piezoelectric ceramic, aluminum nitride, Al₂O₃, LiTaO₃, and LiNbO₃.

Claim 42 (currently amended): The boundary acoustic wave device according to Claim 2931, wherein the boundary acoustic wave elements each further includes a resin layer adhered to the solid layer.

Claim 43 (new): The boundary acoustic wave device according to Claim 34, wherein the plurality of boundary acoustic wave elements are boundary acoustic wave filters or boundary acoustic wave resonators.

Claim 44 (new): The boundary acoustic wave device according to Claim 34, wherein the plurality of boundary acoustic wave elements define resonators.

Claim 45 (new): The boundary acoustic wave device according to Claim 34, wherein the boundary acoustic wave device is a longitudinally coupled filter.

Claim 46 (new): The boundary acoustic wave device according to Claim 34, wherein the boundary acoustic wave elements are provided on a single piezoelectric single crystal substrate.

Claim 47 (new): The boundary acoustic wave device according to Claim 34, wherein an electromechanical coefficient of at least one of the boundary acoustic wave elements is different from that of at least one of the other boundary acoustic wave elements.

Claim 48 (new): The boundary acoustic wave device according to Claim 34, wherein a band width of at least one of the boundary acoustic wave elements is different from that of at least one of the other boundary acoustic wave elements.

Claim 49 (new): The boundary acoustic wave device according to Claim 34, wherein a duty ratio of the electrodes is set so that the acoustic velocity of an SH type boundary acoustic wave is lower than the acoustic velocity of a slow transverse wave propagating through the solid layer and the acoustic velocity of a slow transverse wave propagating through the piezoelectric single crystal substrate.

Claim 50 (new): The boundary acoustic wave device according to Claim 34, wherein the electrodes each include a main electrode layer made from a material selected from the group consisting of Au, Ag, Cu, Al, Fe, Ni, W, Ta, Pt, Mo, Cr, Ti, ZnO, and ITO.

Claim 51 (new): The boundary acoustic wave device according to Claim 50, wherein the electrodes each further include an additional electrode layer laminated on the main electrode layer.

Claim 52 (new): The boundary acoustic wave device according to Claim 51, wherein the solid layer includes a dielectric substance.

Claim 53 (new): The boundary acoustic wave device according to Claim 52, wherein the dielectric substance includes a material primarily composed of SiO_2 .

Claim 54 (new): The boundary acoustic wave device according to Claim 52, wherein the solid layer includes a plurality of laminates, each of the plurality of laminates including a plurality of material layers.

Claim 55 (new): The boundary acoustic wave device according to Claim 53, wherein the solid layer includes a layer primarily composed of SiO_2 laminated to a layer primarily composed of Si.

Claim 56 (new): The boundary acoustic wave device according to Claim 52, wherein the solid layer includes at least one material selected from the group consisting of Si, SiO_2 , glass, silicon nitride, silicon carbide, ZnO, Ta_2O_5 , titanate zirconate lead piezoelectric ceramic, aluminum nitride, Al_2O_3 , LiTaO_3 , and LiNbO_3 .

Claim 57 (new): The boundary acoustic wave device according to Claim 34, wherein the boundary acoustic wave elements each further includes a resin layer adhered to the solid layer.